Herr Handelmann, at the third sitting, read a valuable paper upon the prehistoric fortresses and earthworks of which traces remain in the Schleswig-Holstein district. This was followed by an address from Dr. Koehl respecting the excavations and prehistoric discoveries that had been made at Meckenheim, near Bonn. Dr. Mehlis, Herr von Jazdzewski, and others also addressed the meeting.

On the following day, August 9, Dr. Kollmann laid before the Society numerous important statistics with reference to the ethnology of Switzerland, and in connection with the division of blond and brunette types, showing where such division may be found to occur. Dr. Tischler's paper upon recent prehistoric discoveries made at Dolkeim, in East Prussia, was also listened to with very great interest.

At the fifth sitting, Herr Fraas, speaking on behalf of the Cartographical Commission, proceeded to show in how far this institution had been of service to the cause of anthropology; he also dwelt upon the need for drawing up accurate maps of the different districts and localities in which prehistoric discoveries had been or would be made.

Pfarrer Dahlem of Ratisbon afterwards addressed the assembly, his subject being, Ratisbon in its relation to archæology past and present. Speaking of the antiquity of the town, he rejected as fabulous the belief of chroniclers that it had been built before the foundation of Rome, or even of Troy, although its early existence is proved by two old Roman finds, the one a military diploma of the time of Marcus Aurelius, dating from A.D. 166, and the other a large block of stone three metres in length and one metre in height, being a fragment of the *porta principalis* of the city. The inscription on this latter clearly sets forth that Marcus Aurelius and his son Commodus had erected the *vallum cum portis et turribus*. As this inscription, from the titles given to the Emperor, was engraved upon the gate either immediately before or closely following the death of Marcus Aurelius, it is indisputable that in the years preceding that time, between about A.D. 170 and 180, the town was built by one of the three legions that the Roman Emperor had recruited from Italy in order to quell an invasion in that part of Germany now termed Bavaria. That this was the probable date may be inferred from the belief that the inscription would surely not have been added until the whole were completed. The lecturer clearly showed that Ratisbon was a town of very great historic interest; the choice of it as a meeting-ground for the next annual conference of the German Anthropological Society is thus in every way a most desirable one.

At the sixth sitting, Prof. Bastian, who was warmly welcomed by his colleagues upon his return from a two years' period of travel, delivered a very eloquent address, in which he pointed out the many difficulties in connection with the study of ethnology and anthropology, and warned his hearers against drawing *à priori* conclusions in dealing with a science that needed such minute and careful research, where the field was so vast, so limitless a one, and where no clue, however slight, could ever afford to be lightly set aside. "We are occupied to-day," said he, in conclusion, "with a science that as yet is in its cradle, one over which the shadow of many centuries must sweep ere it can reach manhood, but which will then clearly and completely set forth that which has been termed 'the knowledge of man about man,' a science which, though it does not solve the deepest problems of our existence, will yet throw a partial light upon them. And in its construction we are merely builders and masons, content if we may but do our humble part towards this one object, the completion of so great and wonderful a work."

After speeches by Dr. Henning, Dr. Montelius, and others, Prof. Undset of Christiania gave an interesting account of the recently-discovered Viking ship that has been excavated from a large burying-mound at Sandefjörd, in the vicinity of Christiania. The mound in question has always been termed "The King's Mound" (*Königshügel*), and until last winter no excavations had ever been attempted there. Under the superintendence of Prof. Nicolaysen, however, operations were then commenced, which resulted in a most interesting and extraordinary discovery. Beneath the hill was found a large ship, seventy-five feet in length, sixteen feet in breadth, and about seven or eight feet in depth. In it a kind of vault had been built, wherein were deposited the remains of some valiant sea-king who, may be, had won his people's love and reverence. The ship had been buried fully rigged, with masts, cordage, sails and rudder all complete, the entire timbers being in a wonderful state of preservation, owing to the fortunate circumstance that the mound had been constructed of a moist clay. In all its details the vessel appears to have been most beautifully finished, and there is no lack of ornamentation. In the hold, together with the human remains, were found the bones of several horses and dogs that had evidently been buried with their master. Prof. Undset considered that the burial must have taken place some time during the tenth century. The ship was conveyed to Christiania, where it was at once placed in the University Museum for Prehistoric Antiquities in that city. Several photographs have been taken of it, and the results of further investigation and research respecting it will shortly be published in a longer and more detailed form.

Herr Ranke then delivered an address upon the prehistoric discoveries that had been made in the caves of Upper Franconia; and Prof. Schaaffhausen of Bonn also spoke with reference to important researches made in the caves at Gerolstein, at Letmathe, and Eiserfey. The interest of this sitting—the final one—centred in the speech of Herr Brugsch Bey, the distinguished Egyptologist, who, in the course of it, pointed to Egypt as a rich and valuable field for prehistoric research.

OUR ASTRONOMICAL COLUMN

SOUTHERN VARIABLE STARS.—In the *Uranometria Argentina* amongst the large number of stars indicated as variable, we find twelve to which Dr. Gould has applied the letters of Argelander's nomenclature, their fluctuations having been determined with greater certainty than some others. The following is a list of these objects arranged in order of right ascension:—

No.	Name.	R.A. 1875.			N.P.D. 1875.		Limits of Variation.
		h.	m.	s.	°	′	
1	R Sculptoris	1	21	13	123	11·5	5·8–7·7
2	R Eridani	4	49	42	106	37·2	5·4–6·0
3	S Eridani	4	54	7	102	43·4	4¾–5¾
4	R Puppis	7	36	2	121	22·3	6½–7½
5	R Carinæ	9	29	6	152	14·2	4¾–10
6	R Velorum	10	1	27	141	34·8	6½–7½
7	R Antliæ	10	4	22	127	7·1	6½–8
8	S Carinæ	10	5	23	150	56·3	6¼–9
9	T Carinæ	10	50	18	149	51·2	6¼–6¾
10	R Muscæ	12	34	28	158	43·3	6·6–7·4
11	R Centauri	14	7	35	149	19·8	6–10
12	R Triang. Aust.	15	8	37	156	2·1	6·6–7·5

1. Gould describes this as "one of the most brilliantly coloured stars in the heavens"—an intense scarlet, which remains unchanged through all the stages of its light. Maxima occurred early in December, 1872, and in January, 1874. Period about 207 days with symmetric light-curve.

2. Variation independently shown by the estimates of three observers, to the extent of more than half a magnitude; red.

3. 64 Eridani—"certainly variable;" Bessel calls it 8m. in his zones, which Gould conjectures may be owing to clouds, or ? a misprint.

4. Though appearing to the naked eye and even with the opera-glass as a single star is in fact a cluster of faint stars = 3094 of Herschel's Cape Catalogue. There is only one star in it brighter than 8½, and Gould assumes that the variations of brilliancy are due to this star alone. The object is Lacaille 2916.

5. Lacaille 3932, noted by him 7m. on March 3, 1752. The intervals between the maxima determined at Cordoba, are respectively 329, 306, and 323 days; the minimum appears to take place considerably more than half a period later than the maximum; red in all stages even while at the tenth magnitude. No epoch of maximum is given.

6. R Velorum. The variable character is beyond question. It is Lacaille 4156.

7. R Antliæ. Estimated near the brighter limit March 19, 1871, and in May, 1872; near the fainter one April 28, 1873, and June 14, 1874.

8. S Carinæ. A reddish star, Lacaille 4189. On May 21, 1874, it was 6·3, and in May, 1877, 8¾, but sufficient observations have not yet been made to determine the law of variation.

9. T Carinæ. Period not yet ascertained. Lacaille 4530.

10. R. Muscæ. Varies through nearly a magnitude in not far from 21h. 20m., the minima preceding the maxima by nine hours; its period is therefore the shortest yet detected amongst the variables, and it becomes an object of unusual interest. At midnight on September 25, 1872, the star was estimated equal

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to Lacaille 5079, corresponding to a maximum, and at the same hour on September 30 it was inferior to *i* Muscæ, or very near a minimum. It is Lacaille 5236.

11. R Centauri. The light-curve appears to be irregular; a maximum of 6·1m. occurred about June 28, 1878, and one about August 3 in the preceding year; there would appear to be secondary maxima and minima. A period of 525 days with principal maximum April 18, 1871, and two intermediate maxima following the principal one by 197 and 378 days respectively, reconciles most of the observations, but is incompatible with estimates of 6m. made on June 25 and 26, 1874, with the meridian circle.

12. R Trianguli Australis. Varies between 6·6 and about 8·0 in 3d. 9h. 35m., the minima preceding the maxima by about 48 hours. Well-marked maxima occurred 1871, July 14, at 14h., and September 13 about midnight. Minima were observed 1871, July 12, at 14½h., and September 1 at 8½h. Good determinations were made in 1877, but are not printed in the *Uranometria;* the period 3d. 9h. 35m. is however deduced from a comparison of the observations in 1871 and 1877.

To these stars may be added S Puppis of Lacaille, which designation falls in with Argelander's (R.A. 7h. 43m. 6s., N.P.D. 137° 48′·3); it appears to fall nearly to the ninth magnitude, and to rise to about 7¼, but has never been seen at Cordoba sufficiently bright to be admissible in Gould's Catalogue. It is Lacaille 2999.

Also Lacaille 2691 (L_2 Puppis), a red star varying from 3·6 to 6·3; Gould infers a period of about 135 days, with a variation rapid at the maximum and comparatively slow near the minimum, which apparently occurs about six days nearer to the preceding than the following maximum. Remarkably red near the minimum.

CERASKI'S NEW VARIABLE STAR.—Prof. Julius Schmidt, favoured by the fine sky of Athens, has already determined approximately the period of this star, which appears to be 4d. 23h. 35m.; he does not think it probable that this interval can be a multiple of a period. The star is in the same category as Algol, δ Libræ, V Coronæ, λ Tauri, and S Cancri, and is without colour. It may be well to note that for some time to come or until the latter part of December the minima will occur during daylight in this country; one of the first observable may be expected on December 24 about 17h. Greenwich time. The position of the star in the *Durchmusterung* is in R.A. 0h. 49m. 39s., Decl. + 81° 5′·6.

A NEW COMET.—The discovery of a faint comet by Mr. Lewis Swift is telegraphed from Washington; position August 11, apparently in about R.A. 172°, N.P.D. 22°.

GEOGRAPHICAL NOTES

DR. MATTEUCCI sends home some interesting details of the observations made by him in Kordofan during the march of the expedition under Prince Borghese. In Kordofan, he says, water is as dear as the wine of Barletta. In the rainy season however things are different; from June to September almost every inch of the country is covered with water, when, if one may not die of thirst, there is a chance of his dying of malaria. Vegetation along the line of march of the expedition was as melancholy and infertile as it could well be; stunted skeleton acacias alternating with a few euphorbias in constant monotony; neither mountains nor hills, and not even plains. In Kordofan the ground presents continuous undulations, no doubt in consequence of the geological formation of the soil, which is a bottom of sand slightly mixed with peroxide of iron. The water of the rainy season is husbanded in wells, but so valuable is it that the expedition had often to force the natives to give them access to these wells. Kordofan is about 600 metres above the level of the sea, and 380 above that of the Nile. Not a river, not a torrent, not a brook waters this immense territory, which is about 500 miles long and a little less broad. The mean temperature is not less than 92°. At the surface the ground is so sandy that animals on the march sink to a depth of 30 centimetres. The rains are irregular and never abundant. Some years ago there were no wells in Kordofan; the want of water was not felt, for the natives, in the rainy season, collected the water in large reservoirs, and a sufficient quantity was found in them at each station and village. But the seasons, even in Africa, tend to change. Eight years ago there was no rainy season in Kordofan, and for several months the people feared they would all die of thirst. Then they thought of digging wells, which gave very good results. Everywhere water was found at a depth of 20 inches. But things have sadly changed during the past eight years, and now, instead of finding water at a depth of 20 inches, it is often not found at a depth of 160 feet. In all the wells Dr. Matteucci found the following succession of strata:—From 50 to 30 metres of depth, sand with traces of sulphate of lime; above 30 extends the granite, with a great abundance of quartz in proportion to feldspath and mica. The granitic mass rarely exceeds one metre in thickness, and above is again found the sand.

BY letters from Senegal published in the French papers we learn that the survey of the country between the Senegal and the Niger is in progress. Three different topographical parties have been formed to determine the position of the intended ports and the route of railway intended to connect the two streams. The work must be quite finished by the month of May, 1881.

RECENT letters from Ladakh, according to the Indian papers, state that some Yarkand traders have arrived there, having accomplished the journey from Yarkand to Leh, a distance of 515 miles, in thirty-two days. These men report that they met Mr. Ney Elias, the well-known traveller, on the ascent of the Sasser Mountain. The Sasser Pass, which lies at an elevation of 17,500 feet, is nine stages distant from Leh, on the summer route to Yarkand, by way of the Karakoram. The traders also report that the road beyond the Sasser Pass was in good condition and free from snow early in May. They state that the Chinese are quietly established in Yarkand and Kashgar.

M. DE LA MOTTE has published as a quarto pamphlet the address which he delivered before the French Geographical Society on July 16, respecting his studies in the basins of the Niles. He has devoted several years to the subject, and has had a special map constructed to illustrate his researches on a scale of 1 : 1,200,000.

MESSRS. CASSELL, PETTER, AND GALPIN will publish at the end of September the first monthly part of Prof. Ebers' "Egypt: Descriptive, Historical, and Picturesque;" translated by Clara Bell, with notes by Dr. Birch, of the British Museum. The work will be profusely illustrated, and will occupy about three years in publication.

SCIENTIFIC SERIALS

THE *Journal of Anatomy and Physiology, Normal ana Pathological*, vol. xiv., part 4, July.—Dr. H. S. Wilson, on the rete mirabile of the narwhal (two plates).—W. J. Walsham, observations on the coronary veins of the stomach (a plate).—Note on the same, by Prof. Turner.—F. W. Bennett, a communication between the air-bladder and the cloaca in the herring.—Prof. M. Watson, the curvatores coccygis muscles of man.—Dr. G. A. Gibson, valvular hæmatoma (plate).—R. Maguire, a contribution to the pathology of macroglossia and hygroma (plate).—Dr. J. Dreschfeld, the changes in the spinal cord after amputation of limbs (plate).—Dr. B. C. Waller, the morbid anatomy of certain forms of post-scarlatina nephritis in relation to their bearing on the histogeny of granular kidney (plate).—Dr. J. G. Naismyth, the antagonism of opium and belladonna illustrated by a case of attempted suicide.—Dr. R. J. Anderson, on an astragalo-scaphoid bone in man.—Dr. Foulis, the mode of healing in wounds under antiseptic dressings.—Prof. M'Kendrick, the respiratory movements of fishes (plate).—G. B. Hones, some points in the anatomy of the porpoise (plate).—Prof. Turner on two masks and a skull from islands near New Guinea (plate).—Dr. D. Newman, the effect of certain anæsthetics on the pulmonary circulation.—H. Bendall, a new method of preserving the colour of tissues.—J. Macdonald Brown, variations in myology.—Dr. G. A. Gibson, anatomical and physiological notes.

Bulletin de l'Académie Royale des Sciences (*de Belgique*), No. 6.—On the application of the second principle of thermodynamics to the variations of potential energy of liquid surfaces, by M. Van der Mensbrugghe.—Structure of the ovary, ovulation, fecundation, and the first phases of development in Cheiroptera, by MM. Van Beneden and Julin.—An original Ctenides of Brazil found at Liége, by M. Van Beneden.—Account of a case of cestodic tuberculosis, with some observations on the eggs of *Tænia mediocanellata*, by the same.—Difference of appreciations of the apparent size of microscopic objects by different observers, by M. Montigny.

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